

### ABSTRACT

A power management integrated circuit for monitoring a parameter of a power system is disclosed. The integrated circuit comprises an analog front end operative to receive and at least one of amplify, attenuate and filter analog signals representative of at least one of voltage and current in a power system to produce modified analog signals. The integrated circuit further comprises an analog to digital converter coupled with the analog front end. The analog to digital converter is operative to produce digital signals representative of the modified analog signals. The integrated circuit further comprises logic coupled with the analog to digital converter, operative to receive the digital signals and produce a power parameter. The logic comprises a processor core. The integrated circuit further comprises a random access memory coupled with the logic and operative to store the power parameter. The logic is operative to implement a setpoint to detect when the power parameter is outside a determined range. The integrated circuit further comprises a digital output coupled with the first logic. The digital output is useable to control a switching circuit outside the power management integrated circuit. Systems and devices incorporating the integrated circuit are also disclosed.